21 August 1963

MEMORANDUM FOR THE RECORD

SUBJECT: Computer Hardware (n.b., requirement for 1401)

1. The OCS Computers

7090 - for scientific computing and very large non-scientific jobs.

1410 - for most non-scientific jobs.

1401 - for Input/Output to the 1410 and 7090.

2. Estimated 1401 time: The ratio of required available time to actual use time is 1.5.

	Actual Use Time (Hours/week)	Required Available Time (Hours/week)	Work Shifts
August 63	40	60	$1\frac{1}{2}$
January 64	60	90	$2\frac{1}{4}$
July 64	80	120	3
January 65	90	135	$3\frac{1}{2}$

3. Second 1401 required by January 1965

In formulating plans (June 63) to acquire and develop the Agency's scientific computing capability it appeared that at an early date (then estimated as January 64) a second 1401 computer would be required. The second 1401 would serve only for I/O to the 7090. Present estimates (above) indicate that if the present monitoring (computer operational control) system is retained a second 1401 will be needed not later than January 1965 (vice January 64) even though initially the required time will be minimal.

4. Optional hardware configuration and system to be explored

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is enthused about a 7090/1410/1301 configuration and the application of a priority monitoring system which is well

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suited for scientific/non-scientific computing installations. This
was a topic of great interest at the recent SHARE Conference. Fred
explains it below:

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If we are able to phase in a shared file concept of
handling the priority monitoring, we might phase out the
1401 entirely by July 1964. In so doing we would
replace the 7090/1410/1401/1301 with a 7090/1301/1410
(with two printers). This has run satisfactorily at
other installations where the job mix is 60% scientific and
40% commercial. However, I believe that our mix of 50%
scientific 50% intelligence data (larger output volume
than commercial) would still require a backup 1401 (minimum
configuration). One example, the ████████████ job
would overflow the discs onto tape which would be listed
on a peripheral 1401. In this case, I estimate that the
1401 use time would average less than 40 hours per week.

5. Automatic Language Processing (ALP) System

The recommended ALP system includes a 1401 c.p.u. and other
standard components which are compatible with the hardware that OCS
has. Estimates (above) show that by July 64 - January 65 40 or more
hours per week of 1401 time will be available in the OCS Computer
Center. This exceeds the initial requirement for the ALP system.
The second 1401 (see para. 3) or the optional hardware configuration
(see para. 4) would provide for this.

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